

INTERNATIONAL SEARCH REPORT

International Application No

PCT/N02004/000384

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F15B11/042 F16L55/136 F16L55/132

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16L E21B F15B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 4 854 384 A (CAMPBELL ET AL) 8 August 1989 (1989-08-08) column 1, lines 8-29 column 4, lines 6-55 column 5, line 39 - column 7, line 29 column 9, lines 4-55; figures 1-3,8	1-8, 11, 13, 14 9, 10, 12, 15, 16
X	DE 196 31 804 A1 (MANNESMANN REXROTH GMBH, 97816 LOHR, DE) 15 January 1998 (1998-01-15) column 1, line 51 - column 2, line 37; figure 1 ----- -/--	1, 4, 6



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

5 April 2005

Date of mailing of the international search report

11/04/2005

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 03/067134 A (CARSPHAIRN LIMITED; EARLY, CIARAN; GAGE, ERIC; MCTAVISH, DOUGLAS; EARL) 14 August 2003 (2003-08-14)	9,10,12, 15,16
A	page 9, line 13 - page 10, line 24 claims 16,17; figures 1-4,13	1,13
A	US 4 272 984 A (BELL ET AL) 16 June 1981 (1981-06-16) abstract column 3, line 9 - column 4, line 2 column 4, lines 45-62; figures 2,3	1,6,13, 15

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Information on patent family members

International Application No

PCT/N02004/000384

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4854384	A	08-08-1989	CA 1292704 C	03-12-1991
			AU 611613 B2	13-06-1991
			AU 1439488 A	13-10-1988
			GB 2203214 A , B	12-10-1988
			GB 2235745 A , B	13-03-1991
			US 4991651 A	12-02-1991
DE 19631804	A1	15-01-1998	NONE	
WO 03067134	A	14-08-2003	IE 20020089 A2	20-08-2003
			AU 2003202132 A1	02-09-2003
			BR 0307594 A	01-02-2005
			CA 2475585 A1	14-08-2003
			EP 1476688 A2	17-11-2004
			WO 03067134 A2	14-08-2003
US 4272984	A	16-06-1981	NONE	